

**Five new European species of the *Rhamphomyia* (s. str.) *albosegmentata* group (Diptera: Empididae)**

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**Five new European species of the *Rhamphomyia* (s. str.) *albosegmentata* group (Diptera: Empididae).** - *Rhamphomyia* (s. str.) *bellinosetosa* sp. n. (Italy), *Rhamphomyia* (s. str.) *piedmontensis* sp. n. (Italy), *Rhamphomyia* (s. str.) *ponti* sp. n. (Austria), *Rhamphomyia* (s. str.) *saintbaumensis* sp. n. (France), and *Rhamphomyia* (s. str.) *sellacrinata* sp. n. (Italy, Switzerland), are described and illustrated. The key to the Palearctic species of the *Rhamphomyia* (s. str.) *albosegmentata* group is updated.

**Keywords:** *Rhamphomyia* - new species - Europe - taxonomy - key.

INTRODUCTION

The species of the *Rhamphomyia* (s. str.) *albosegmentata* group are usually medium-sized (wing size from 3.2 to 8.9 mm), with characteristic shape of genitalia (cercus [= dorsal genital lamella] simple, without «subcercal process», with finger-like projection near base of its upper margin, phallus broadened apically), proepisternal depression setose, axillary angle acute, anal vein (A1) complete, prosternum bare, costal seta present, haltere dark and hind femur with ventral setae. Females are sometimes difficult to distinguish from other groups and species complexes of the subgenus *Rhamphomyia* (s. str.).

Palearctic species of the group were revised by Barták (1981), however, three species were described more recently (Barták, 1998) and five additional species are described here as new to science, and this necessitates revision of the earlier key (Barták, 1981).

MATERIAL AND METHODS

The material studied is deposited in the following collections:

- CNC Canadian National Collection, Ottawa
- CUA Czech University of Agriculture, Prague
- MHNG Muséum d'histoire naturelle, Geneva
- NHM Natural History Museum, London
- SMNS Staatliches Museum für Naturkunde, Stuttgart
- UMO University Museum, Oxford

The genitalia were macerated in 10% KOH (24 hours, room temperature) and they are stored together with specimens in plastic microvials with glycerine. The morphological terms used here follow Merz & Haenni (2000) and Sinclair (2000). Abbreviations: T11, T21, T31 = length of fore, mid, hind tibia; B11, B21, B31 = length of fore, mid, hind basal tarsomere; B1w, B2w, B3w = width of fore, mid, hind basal tarsomere; M2/D = length of vein M2: greatest length of discal medial cell (discal cell); M3/Db = length of apical: preapical sections of vein CuA1; lw: ww = greatest length of wing: greatest width of wing. Ratio of antennal segments = length of first: 2nd: 3rd: style (in 0.01 mm scale).

## SYSTEMATIC TREATMENT

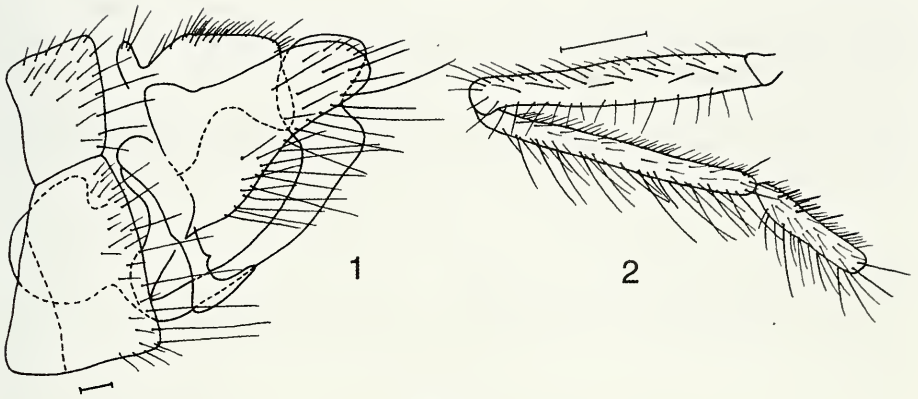
*Rhamphomyia* (s. str.) *bellinsetosa* sp. n.

Figs 1, 2

HOLOTYPE MALE: Italy: Piedmont, Celle de Bellino, 11.-12.vii.1974, Malaise trap, W. Baker leg. (CNC).

## DESCRIPTION

*Male*: Eyes holoptic, facets in lower half of eye much smaller than upper ones. Frons black, grey pruinose, bare. Ocellar setae black, fine, 2/3 as long as frons, ocellar triangle with single pair of additional slightly smaller setulae. Face black, grey pruinose, about 0.35 mm broad below and 0.20 mm long, bare. Occiput black, light grey pruinose, medium densely black setose, dorsal setae quite strong, postocular row incomplete. Antennae black, ratio of antennal segments = 17: 10: 55: 11, both basal segments covered with long setae, longest ones about 0.25 mm long. Labrum brownish black, polished, subequally long as head is high. Palpus brown, long, densely covered with very long bristly setae (the longest 0.50 mm long). Genae narrow and mostly polished. Clypeus pruinose. Thorax black, light grey pruinose, mesoscutum light grey without distinct stripes. All setae and setulae black. Chaetotaxy: about 15 setulae on proepisternum; prosternum bare; proepisternal depression with one setula; 20 biserial acrostichals; 20-25 irregularly 2-3 serial dorsocentrals ending in 4 strong prescutellars (both acrostichals and dorsocentrals rather strong and up to 0.40 mm long); 1-2 intrahumeral; 1-2 posthumeral; about 20 additional setulae lateral of dorsocentrals in presutural area; 1 postpronotal seta and about 12 additional shorter setae; 2-3 notopleurals (2-4 setulae in front part of notopleura, some of them quite strong); a line of 4-5 strong setae in supraalar and prealar areas, 1-2 prealar and 6-7 additional setae in unusual position between supraalars and dorsocentrals (even between hindmost supraalars and hind dorsocentrals): 1 long, 1 shorter and several additional small postalar; 3 pairs of scutellars; laterotergite (metapleura) with black setae. Coxae brownish black and pruinose, concolorous with pleura. Legs blackish brown and pruinose, black setose. A long seta present in comb at tip of hind tibia. Fore femur (Fig. 2) with sparse and irregular rows of anteroventral, posteroventral and posterior setae slightly longer than femur is deep, dorsal setulae very short, but several anterodorsal and nearly complete row of anterior setae are somewhat longer. Fore tibia (Fig. 2) with row of (8) very strong anterodorsal and irregular row of (greater number) similarly strong posterodorsal and posterior setae up to 3 times as long as diameter of tibia (up to 0.45 mm long with many much smaller and finer setulae between them), very fine



FIGS 1-2

*Rhamphomyia* (s. str.) *bellinosetosa* sp. n. (1) Male terminalia (macerated), lateral view. Scale 0.1 mm. (2) Male fore femur, tibia and basitarsus, posterior view. Scale 0.5 mm.

ventral ciliation consists of setulae subequally long as diameter of tibia. Mid femur with anteroventral row of setae slightly longer than femur is deep, posteroventral setae much shorter and finer, only a single strong posteroventral present on basal third. Mid tibia with two rows of anterodorsal and posterodorsal setae (about 6 in each row) almost 4 times as long as diameter of tibia and with anteroventral and posteroventral setae (3 in each row) twice as long as diameter of tibia. Hind femur with 5 anteroventral, a single long submedian posteroventral seta and 2-3 subapical anterodorsal setae at least as long as femur is deep, several fine posterior setae on base of femur long, other ciliation short. Hind tibia with anterodorsal and posterodorsal setae (6-8 in each row) twice as long as diameter of tibia (small setulae between them are much shorter), ventral setulae short. Basal tarsomere of fore leg thin, with several strong setae dorsally up to 3 times as long as diameter of this tarsomere and with short ventral spines, T1l: B1l = 2.1, B1l: B1w = 5.0; basal tarsomere of mid leg short and thin, short setose and with short ventral spines, T2l: B2l = 2.8, B2l: B2w = 5.0. Basal tarsomere of hind leg thin, dorsally with some 6 setae three times as long as diameter of this tarsomere and with long ventral spines, T3l: B3l = 2.2-2.3, B3l: B3w = 7.7. Wing clear or slightly brownish, stigma light brown, veins brown, anal vein ( $A_1$ ) complete. Costal seta long, axillary angle sharply acute ( $30^\circ$ ). M2/D = 1.3, M3/Db = 1.8, lw: ww = 3.0. Haltere brown, calypter yellow with dark fringes. Abdomen black, light grey pruinose (light grey in dorsal view). Setae and setulae all black. Hind marginal setae on sides of tergites 2-5 strong and slightly longer than their segments, on segments 6-7 fine and slightly shorter than their segments, discal setulae shorter than hind marginals. The first sternite with several setulae on sides. Terminalia as in Fig. 1; apical angle of cercus slightly obtuse. Length of body: 5.7 mm, wing: 6.1 mm.

*Female*: Unknown.

**DIFFERENTIAL DIAGNOSIS:** *Rhamphomyia* (s. str.) *bellinosetosa* sp. n. is similar to *R. hirtimana* Oldenberg, 1922, however, the latter species has fore tibia with almost homogeneously fine dorsal ciliation, more sparsely setose mesoscutum (about 10 setae

on presutural area of mesoscutum lateral of dorsocentrals), labrum longer than head is high and palpi sparsely setose (less than 15 setae on each palpus, whereas more than 20 in the new species described above).

DERIVATIO NOMINIS: The species name is derived in part from the type locality denomination (bellino-) and -setosa which refers to the strongly setose fore tibia.

DISTRIBUTION: Italy.

DATES OF OCCURRENCE: July.

*Rhamphomyia* (s. str.) *piedmontensis* sp. n.

Fig. 3

HOLOTYPE MALE: Italy: Celle de Bellino, Piedmont, July 11-12, 1974, W. Baker - Mal. Trap (CNC).

DESCRIPTION

*Male*: Eyes holoptic, facets in lower half of eye smaller than upper ones. Frons black, grey pruinose, bare. Ocellar setae black, about as long as upper postocular ciliae, ocellar triangle with 4-5 pairs of additional slightly shorter setulae. Face black, grey pruinose, about 0.45 mm broad below and 0.30 mm long, bare. Occiput black, grey pruinose, rather densely and long black setose. Antenna black, ratio of antennal segments = 24: 13: 60: 15, both basal segments covered with very long setae (longest about 0.45 mm long). Labrum brownish black, polished, slightly longer than head is high. Palpus brown, long, very densely covered with very long bristly setae (longest up to 0.60 mm long). Genae narrow and pruinose, clypeus pruinose. Thorax black, dark grey or slightly brownish grey pruinose, mesoscutum without stripes. All setae and setulae black. Chaetotaxy: about 40 setulae on proepisternum; prosternum bare; about 15 setulae on proepisternal depression; great number of 4-5 serial acrostichals; great number of multiserial dorsocentrals, ending in 3-4 strong prescutellars, spreading down sides of mesoscutum in both pre- and postsutural area (whole mesoscutum is densely covered with setulae, leaving only very narrow stripes between acrostichals and dorsocentrals bare, stripes much narrower than space occupied by acrostichal setae, areas just around postalar callus and notopleuron behind notopleural setae bare), setae on mesoscutum about 0.40 mm long; intrahumeral and posthumeral setae not differentiated; postpronotal scarcely differentiated from many similar setulae; 4 notopleurals (many long setulae in front part of notopleuron); supraalar and prealar area densely covered with setulae, 2-3 supraalars stronger and longer; 1 long and 1 short postalar; 4 pairs of scutellars; laterotergite (metapleura) with black setae. Coxae and legs concolorous with pleura, pruinose, black setose. Long seta present in comb at tip of hind tibia. Fore femur with rather sparse anteroventral and more dense posteroventral and posterior setulae about as long as femur is deep, dorsal setulae shorter. Fore tibia with almost equally long but unequally strong setae and setulae dorsally only slightly longer than diameter of tibia, ventral setulae very short. Mid femur with anterodorsal, anteroventral and posteroventral setae slightly longer than femur is deep, other ciliation short. Mid tibia with 4-5 pairs of setae dorsally at most twice as long as diameter of tibia, anteroventral and posteroventral setae shorter. Hind femur with ventral, anterodorsal and posterior setae slightly longer than femur is deep. Hind tibia very slightly flattened, with 7-8 pairs of closely inserted anterodorsal and posterodorsal setae slightly longer than diameter of tibia, ventral setulae very short.

Basal tarsomere of fore leg thin and short setose, ventral spines not prominent, T11: B11 = 2.5, B11: B1w = 7.1, basal tarsomere of mid leg short and thin, with several ventral spines, T21: B21 = 2.6, B21: B2w = 5.0. Basal tarsomere of hind leg thin, dorsally with several setae more than twice longer than diameter of this tarsomere, ventral spines slightly longer than ciliation, T31: B31 = 2.4, B31: B3w = 5.7. Wing slightly brownish, stigma brown, veins brown, anal vein ( $A_1$ ) complete. Costal seta long, axillary angle sharply acute. M2/D = 1.4, M3/Db = 2.4, lw: ww = 3.0. Haltere brownish-black, calypter brown with dark fringes. Abdomen black, dark brownish-grey pruinose (brown in dorsal view). Setae and setulae black. Hind marginal setae on sides of tergites 2-5 1.5 times longer than their segments, on tergites 6-7 shorter, discal setulae shorter than hind marginals. Dorsum of tergites with unusually long setae (marginals about as long as their segments). The first sternite setulose on sides. Terminalia as in Fig. 3. Length of body: 6.0 mm, wing: 6.5 mm.

*Female*: Unknown.

DIFFERENTIAL DIAGNOSIS: *Rhamphomyia* (s. str.) *piedmontensis* sp. n. differs from all other known species of *R. albosegmentata* group by multiserial acrostichal setae. In spite of female remaining unknown, I believe it could be very easily identified according to the following combination of characters: multiserial acrostichals, long costal seta, dark haltere, axillary angle sharply acute and complete anal vein. These characters are usually not sexually dimorphic and are unique among the Palaearctic fauna of *Rhamphomyia*.

DERIVATIO NOMINIS. The species is named after the type locality.

DISTRIBUTION: Italy.

DATES OF OCCURRENCE: July.

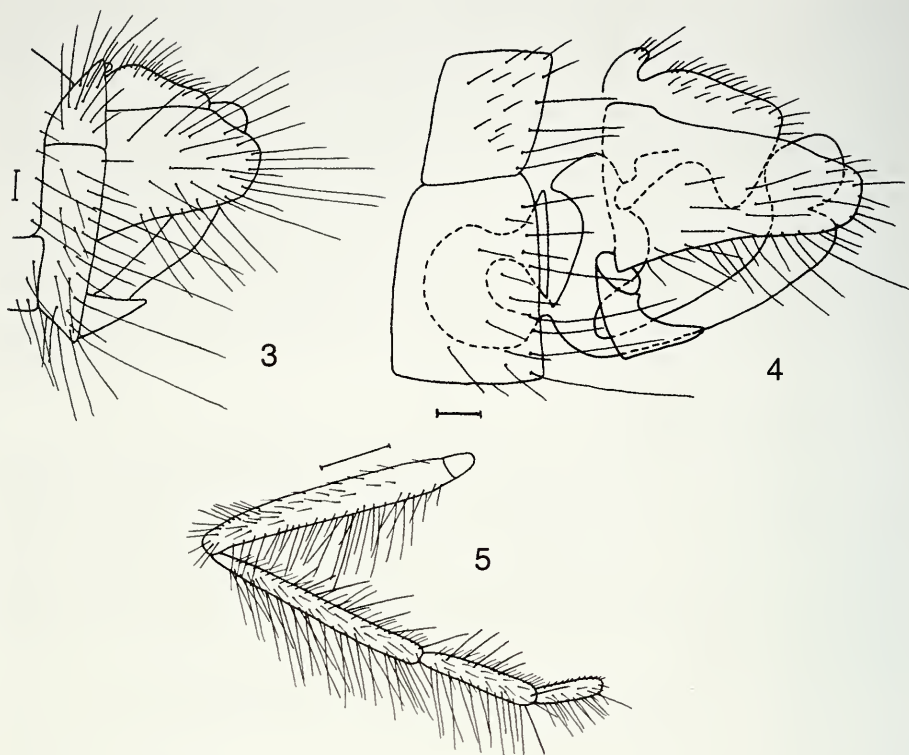
***Rhamphomyia* (s. str.) *ponti* sp. n.**

Figs 4, 5

HOLOTYPE MALE: Austria: Tyrol, Oetzal, Obergurgl, Gaisbergertal to Hohe Mut, heath, 2400 - 2600 m, 7.viii.1981, leg. A.C. Pont (NHM). - Paratype. Trögeralm, Glockner, 16.vii.1941, "Rhamphomyia hirtimana Loew, Lindner det.", 1 male (SMNS).

DESCRIPTION

*Male*: Eyes holoptic, facets in lower half of eye much smaller than upper ones. Frons black, grey pruinose, bare. Ocellar setae black, fine, 2/3 as long as frons, ocellar triangle with 2-3 pairs of additional slightly smaller setulae. Face black, grey pruinose, about 0.30 mm broad below and 0.20 mm long, bare. Occiput black, light grey pruinose, medium densely and medium long black setose, postocular row incomplete and distant from eye margin in middle. Antenna black, ratio of antennal segments = 18: 11: 55: 14, both basal segments covered with long setae (longest about 0.25 mm long). Labrum brownish black, polished, slightly longer than head is high. Palpus brown, long, sparsely covered with long bristly setae (longest are 0.40 mm long). Genae narrow and mostly polished, clypeus pruinose. Thorax black or brownish black, mesoscutum with distinct brownish tinge, without stripes or with three darker stripes under rows of acrostichals and dorsocentrals visible only in sharp caudal view. All setae and setulae black. Chaetotaxy: 10-15 setulae on proepisternum; prosternum bare; 1-3 setulae on proepisternal depression; 24-26 biserial acrostichals; 25-30 irregularly



FIGS 3-5

*Rhamphomyia* (s. str.) *piedmontensis* sp. n. (3) and *Rhamphomyia* (s. str.) *ponti* sp. n. (4-5). (3-4) Male terminalia, lateral view. Scale 0.1 mm. (5) Male fore femur, tibia and basitarsus, posterior view. Scale 0.5 mm.

triserial dorsocentrals ending in 1-2 strong prescutellars (both acrostichals and dorsocentrals moderately strong and about 0.30 mm long); 0-2 intrahumeral; 0-1 posthumeral; about 10 additional setulae lateral of dorsocentrals in presutural area; 1 postpronotal scarcely differentiated from 15 setulae; 3-4 notopleurals (3-5 setulae in front part of notopleuron); 1 long supraalar, 3-4 prealars and 2-3 other setae in line between them; 1 long and 1 short postalar; 2 pairs of strong and 1 pair of fine scutellars; laterotergite (metapleura) with black setae. Coxae brownish black and pruinose, concolorous with pleura. Legs blackish brown and pruinose, black setose. Long seta present in comb at tip of hind tibia. Fore femur (Fig. 5) densely covered with irregularly arranged posteroventral setae and less numerous anteroventrals both at least twice as long as femur is deep, also anterior and posterior setae longer than femur is deep, dorsal setae subequally long as femur is deep. Fore tibia (Fig. 5) densely covered with long setae along dorsal and posterior surfaces (almost 0.70 mm long, i.e. 4-5 times as long as diameter of tibia), dense ventral ciliation consists of setulae subequally long as diameter of tibia and between these setulae with irregular row of 6-8 ventral setae 2-3 times as long as diameter of tibia. Mid femur with two rows of ventral setae at least

1.5 times as long as femur is deep, other ciliation short. Mid tibia with two irregular rows of anterodorsal and posterodorsal setae, 4-5 of them in each row about as long as those on fore tibia (0.70 mm), and with two rows (3-4 setae in each row) of unusually long anteroventral and posteroventral setae (0.50 mm long). Hind femur with 3-8 anteroventrals (8 strong in holotype and 3 fine in paratype), single long submedian posteroventral and 2 subapical anterodorsal setae at least as long as femur is deep, also several fine posterior setae on base of femur long, other ciliation short. Hind tibia with anterodorsal and posterodorsal setae (4-8 in each row) up to three times as long as diameter of tibia, ventral setulae contrastingly short. Basal tarsomere of fore leg thin, densely covered with setae dorsally only slightly shorter than the length of this tarsomere, also ventral spines unusually long, longer than diameter of this tarsomere (long dorsal setae occur also on second tarsomere), T1l: B1l = 1.9-2.0, B1l: B1w = 5.0-5.5; basal tarsomere of mid leg short and thin, with several long dorsal setae and long ventral spines, T2l: B2l = 2.4-2.6, B2l: B2w = 5.0-6.1. Basal tarsomere of hind leg thin, dorsally with some 6 setae three times as long as diameter of this tarsomere and with long ventral spines, T3l: B3l = 2.1-2.2, B3l: B3w = 5.8-6.1. Wing clear, stigma light brown, veins brown, anal vein ( $A_1$ ) complete. Costal seta long, axillary angle sharply acute ( $35^\circ$ ). M2/D = 1.3-1.5, M3/Db = 2.1-2.2, lw: ww = 2.8-3.1. Haltere brown, calypter yellowish brown with dark fringes. Abdomen black, light grey pruinose (light grey in dorsal view). Setae and setulae all black. Hind marginal setae on sides of tergites 2-5 strong and slightly longer than their segments, on segments 6-7 fine and slightly shorter than their segments, discal setulae shorter than hind marginals. Dorsum of tergites with short setae in midline but longer just outside this line. The first sternite with several setulae on sides. Terminalia as in Fig. 4; apex of cercus right-angled. Length of body: 5.7-6.4 mm, wing: 5.9-6.7 mm.

*Female*: Unknown.

**DIFFERENTIAL DIAGNOSIS.** *Rhamphomyia* (s. str.) *ponti* sp. n. is somewhat similar to *R. ursina* Oldenberg, 1915 or *R. kreischi* Barták, 1998 (due to several long setae ventrally on fore tibia), however, the new species differs from both in many characters, e.g. mid tibia in both *R. ursina* and *R. kreischi* covered along dorsal side with numerous long setae not forming rows and abdomen is brown viewed from above. In several characters this new species is somewhat similar to *R. hirtimana*, however, the latter species has short setae second fore tarsomere, mesoscutum light bluish-grey without brownish tinge and sparse posterodorsal setae on fore femur forming nearly a row.

**DERIVATIO NOMINIS.** The species named after the collector of the holotype, the leading world specialist on Muscidae, Dr Adrian C. Pont (Oxford).

**DISTRIBUTION:** Austria.

**DATES OF OCCURRENCE:** July-August.

***Rhamphomyia* (s. str.) *saintbaumensis* sp. n.**

Figs 6-8

**HOLOTYPE MALE.** France: Provence, Saint Baume, 30.?.1945, deposited in UMO.

**DESCRIPTION.**

*Male*: Eyes holoptic, facets in lower half of eye smaller than upper ones. Frons black, grey pruinose, bare. Ocellar setae rather weak, black, about as long as dorsal

postocular ciliae, ocellar triangle with 2 additional slightly shorter setulae. Face black, grey pruinose, about 0.30 mm broad below and equally long, bare. Occiput black, grey pruinose, densely and long black setose. Antenna black, both basal segments brown, ratio of antennal segments = 19: 11: 50: 14, longest setulae on basal two segments about 0.30 mm long. Labrum brown, polished, about as long as head is high. Palpus brown, long, densely covered with long bristly setae. Genae narrow and polished, clypeus pruinose. Thorax black, grey pruinose, mesoscutum dark brownish grey, with somewhat darker stripes below rows of acrostichals and dorsocentrals visible in sharp caudal view. All setae and setulae black. Chaetotaxy: proepisternum with about 30 setulae; prosternum bare; proepisternal depression with 8 setulae; about 35 biserial, fine acrostichals; great number of multiserial dorsocentrals, ending in 2 strong prescutellars, spreading down the sides of mesoscutum in presutural area (both acrostichals and dorsocentrals about 0.30 mm long); intrahumeral seta not differentiated from setulae, 1 posthumeral accompanied with several setulae, postpronotal scarcely differentiated from many similar setulae; 3 notopleurals (4-5 long setulae in front part of notopleuron); 2 supraalar and about 10 setulae in prealar area; 1 long and 1 short postalar; 3 pairs of scutellars; laterotergite (metapleura) with black setae. Coxae concolorous with pleura, pruinose, black setose. Legs brown, pruinose, black setose. Long seta present in comb at tip of hind tibia. Fore femur densely covered with long posteroventral and posterodorsal setae longer than femur is deep, anteroventral ones sparser and shorter, posteroventrals do not form row. Fore tibia with dense and almost homogeneous setae in posterodorsal area more than 3 times as long as diameter of tibia (also at least basal two fore tarsomeres with similar setae), ventral setulae very short. Mid femur with rows of anteroventral and posteroventral setae slightly longer than femur is deep, other ciliation short. Mid tibia with 4-5 long and strong anterodorsal and posterodorsal setae up to 4 times as long as diameter of tibia, and 4 almost equally long posteroventrals. Hind femur with 4-5 rather fine anteroventral setae about as long as femur is deep and with equally long two subapical anterodorsals and 1 posteroventral near middle of femur. Hind tibia thin, with 6-7 pairs of anterodorsal and posterodorsal setae, longest setae twice as long as diameter of tibia, ventral setulae short. Basal tarsomere of fore leg slightly swollen, densely covered with long setae dorsally (also at least second tarsomere long setose),  $T1l: B1l = 2.3$ ,  $B1l: B1w = 3.5$ , basal tarsomere of mid leg slightly swollen, covered with rather long spines ventrally,  $T2l: B2l = 3.0$ ,  $B2l: B2w = 3.5$ . Basal tarsomere of hind leg thin and short setose,  $T3l: B3l = 2.3$ ,  $B3l: B3w = 6.7$ . Wing clear to slightly yellowish, stigma brown, veins brown, anal vein ( $A_1$ ) complete. Costal seta long, axillary angle sharply acute.  $M2/D = 1.3-1.4$ ,  $M3/Db = 2.0$ ,  $lw: ww = 3.2$ . Haltere dark brown, calypter brownish-yellow with dark fringes. Abdomen black, light grey pruinose even in dorsal view. Setae and setulae all dark. Hind marginal setae on sides of tergites 2-3 slightly shorter than their segments, on tergites 4-5 shorter than their segments and very short on tergites 6-7, discal setulae shorter than hind marginals. Dorsum of tergites with slightly shorter setulae. The first sternite with several setulae on sides. Terminalia as in Figs 6-8; hypandrium slightly bifurcated apically; phallus with lateral «wing», apical swelling irregular. Length of body 6.4 mm, wing 6.0 mm.

*Female*: Unknown.



**DIFFERENTIAL DIAGNOSIS.** *Rhamphomyia* (s. str.) *saintbaumensis* sp. n. is allied to several species of the *R. albosegmentata* group (e.g. *R. curvinervis* Oldenberg, 1915, *R. tristriolata* Nowicki, 1868, *R. hirtimana* Oldenberg, 1922) sharing with them the following characters: densely and long setose fore femur and light grey abdomen. However, it differs from all these species in swollen fore basal tarsomere covered (together with the following tarsomere) with very long setae dorsally. Moreover, the new species has peculiarly shaped phallus (with lateral «wings») and dark and rather brownish mesoscutum.

**DERIVATIO NOMINIS:** The species is named after the type locality.

**DISTRIBUTION:** France.

**DATES OF OCCURRENCE:** Unknown (it is impossible to read the month of collecting which is illegibly hand-written on the label - March?).

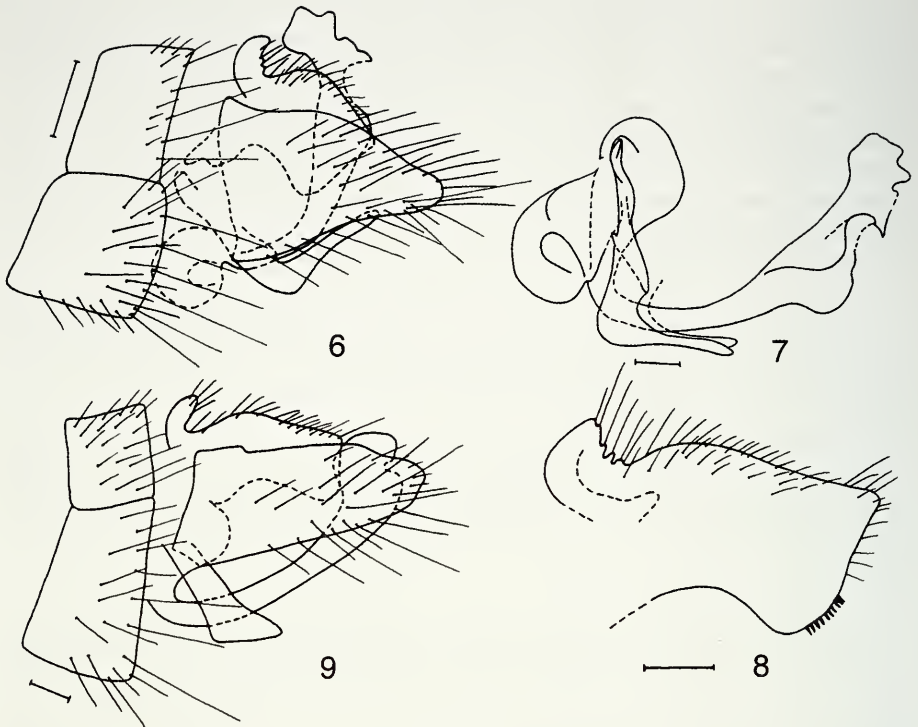
***Rhamphomyia* (s. str.) *sellacrinita* sp. n.**

Fig. 9

**HOLOTYPE MALE.** Italy: Passo Sella, forest boundary, 1800 m, 46°26'N, 11°46'E, 8.viii.1988, leg. M. Barták (CUA). - **Paratypes.** Same data as the holotype, 1 male (CUA); Switzerland, VS Visperterminen, ob. Dorf, 1550 m, 27.viii.2001, Merz and Landry leg., 1 male (MHNG).

**DESCRIPTION**

**Male:** Eyes holoptic, facets in lower half of eye much smaller than upper ones. Frons black, grey pruinose, bare. Ocellar setae black, very fine, hardly 1/3 as long as frons, ocellar triangle with 1-2 pairs of additional nearly equally long setulae. Face black, grey pruinose, about 0.18 mm broad below and 0.40 mm long, bare. Occiput black, dark grey pruinose, rather sparsely and short black setose (uppermost postocular setae only about 0.10 mm long). Antenna black, ratio of antennal segments = 15: 10: 39: 12, both basal segments covered with medium long setae (longest about 0.20 mm long). Labrum brownish black, polished, slightly shorter than head is high. Palpus brown, long, sparsely covered with long bristly setae (longest 0.25 mm long). Genae very narrow and mostly pruinose, clypeus pruinose. Thorax black or brownish-black, mesoscutum deep black and slightly subpolished, without stripes. All setae and setulae black. Chaetotaxy: proepisternum with about 10 setulae; prosternum bare; 1-3 setulae on proepisternal depression; about 12 narrowly biserial acrostichals; 12-15 irregularly 2-3 serial dorsocentrals ending in 2-3 strong prescutellars (both acrostichals and dorsocentrals medium strong and about 0.20 mm long); 2 intrahumeral; 0-2 posthumeral setae (inserted in unusual lateral position, almost in area of notopleuron), 6-8 fine additional setulae lateral of dorsocentrals in presutural area; 1-2 postpronotals in addition to several shorter setulae; 3 notopleurals (5-8 setulae in front part of notopleura, some of them quite strong); 2 supraalar and 2-3 prealar; 1 long and 1 short postalars; 2 pairs of strong and 0-1 pair of fine scutellars; laterotergite (metapleura) with black setae. Coxae brown and pruinose, legs brown and mostly polished, black setose. Long seta present in comb at tip of hind tibia. Fore femur with rather sparse anteroventral and posteroventral rows of setae about twice as long as femur is deep one third before tip of femur but absent in basal half of femur, dorsal setulae very short. Fore tibia with almost homogeneous dorsal and posterodorsal ciliation subequally long as diameter of tibia, ventral setulae short. Mid femur with very short and fine setulae,



FIGS 6-9

*Rhamphomyia* (s. str.) *saintbaumensis* sp. n. (6-8) and *Rhamphomyia* (s. str.) *sellacrinita* sp. n. (9). (6) Male terminalia (macerated), lateral view. Scale 0.1 mm. (7) Male phallus and hypandrium (macerated), lateral view. Scale 0.1 mm. (8) Male cercus (macerated), lateral view. Scale 0.1 mm. (9) Male terminalia (macerated), lateral view. Scale 0.1 mm.

both anteroventrals and posteroventrals at most  $1/3$  as long as femur is deep. Mid tibia with 4-5 very long anterodorsals almost 4 times as long as diameter of tibia (up to 0.50 mm long), and with 3-4 shorter posterodorsal; anteroventrals and posteroventrals (1-3 in each row) up to twice as long as diameter of tibia. Hind femur with 8 strong anteroventral and one submedian strong posteroventral setae slightly longer than femur is deep and with 1-2 subapical anterodorsal and several posterior setae in basal part of femur, other ciliation short (setulae between anteroventral setae much shorter than strong anteroventrals). Hind tibia with anterodorsal and posterodorsal setae (5-7 in each row) twice as long as diameter of tibia, ventral setulae short as well as setulae between strong anterodorsals and posterodorsal. Basal tarsomere of fore leg thin and short setose, with short ventral spines and with peculiar long, fine and curved ventral setulae (these setulae distinct but shorter also on following tarsomeres), T11: B11 = 2.3-2.5, B11: B1w = 4.2-5.0, basal tarsomere of mid leg short and thin, with short ventral spines and also with several curved ventral setulae, T21: B21 = 2.8-3.0, B21: B2w = 4.5-5.0. Basal tarsomere of hind leg thin, dorsally with 2-3 pairs of setae twice longer than diameter of this tarsomere and with short ventral spines, T31: B31 = 2.4-2.5,

B3l: B3w = 5.6-5.7. Wing brownish, stigma brown, veins brown, anal vein ( $A_1$ ) complete. Costal seta long, ax angle sharply acute.  $M2/D = 1.6-1.7$ ,  $M3/Db = 2.9-3.0$ ,  $lw: ww = 2.9-3.1$ . Haltere brownish black, calypter brownish yellow with dark fringes. Abdomen brownish black, grey pruinose (brown in dorsal view). Setae and setulae all black. Hind marginal setae on sides of tergites 2-5 1.5 times as long as their segments, on tergites 6-7 very short, discal setulae shorter than hind marginals. Dorsum of tergites with short setae. The first sternite with single setula on each side. Terminalia as in Fig. 9; epandrium (=lateral genital lamella) oblong-ovate, with only fine setulae at dorsal part apically, strong setae occur in middle part; apical angle of cercus slightly obtuse. Length of body: 4.4-4.6 mm, wing: 5.2 mm.

*Female:* Unknown.

DIFFERENTIAL DIAGNOSIS: *Rhamphomyia* (s. str.) *sellacrinita* sp. n. is most allied to *R. crinita* Becker, 1887 (and also to at least three other still undescribed species) sharing with them a single row of posteroventral setae on fore femur confined to apical third of femur. However, it differs from all of them in the following combination of characters: fore basal tarsomere ventrally with a few peculiar, long and fine, upright setulae with bent tip; mesoscutum deep black (as in *R. montana* Oldenberg, 1915); wing brownish and fore tibia with homogeneous ciliation dorsally about as long as diameter of tibia.

DERIVATIO NOMINIS. The species name is composed of: sella- (after type locality) and -crinita (stresses the similarity with *R. crinita*).

DISTRIBUTION: Italy, Switzerland.

DATES OF OCCURRENCE: August.

#### KEY TO PALAEARCTIC SPECIES OF RHAMPHOMYIA (S. STR.) ALBOSEGMENTATA GROUP

Notes: "additional characters" are useful for distinguishing keyed species from still undescribed species or species with which they can be confused or (in the case of females) from species of other *Rhamphomyia* (s. str.) species groups. Abbreviation: "M2/D" is not used in the key, instead of it, expressions like "vein M2 1.2-1.3 times as long as discal cell" are used. The key should be used together with the previously published keys and descriptions of Barták (1981, 1982, 1998) for checking illustrations, detailed descriptions and further remarks.

- 1a Acrostichals multiserial (unknown female probably keys here)  
..... *R. piedmontensis* sp. n.
- 1b Acrostichals biserial ..... 2
- 2a (1) Dorsocentrals almost uniserial and 2-3 times longer and stouter than ac. (Additional characters: mesoscutum deep black, without any stripes; female with several anteroventral setae on hind tibia at least half as long as diameter of tibia; male fore femur with 1-5 strong posterior setae; male tergites 2-8 and female tergites 2-5 polished, other parts of abdomen pruinose) ..... *R. anthracina* Meigen, 1822
- 2b Dorsocentrals 2-4 serial, at most slightly longer and stronger than acrostichals ..... 3

3a (2) Mesoscutum with four longitudinal polished stripes. Female hind tibia slightly swollen, with anterior surface virtually bare  
..... *R. luridipennis* Nowicki, 1868

3b Mesoscutum uniformly pruinose. Female hind tibia with another ciliation ..... 4

4a (3) Male ..... 5

4b Female (of *R. lautereri*, *R. saintbaumensis*, *R. sellacrinia*, *R. ponti*, *R. erecta*, and *R. bellinosetosa* unknown) ..... 32

5a (4) Posteroventral setae on fore femur absent. Mid femur with a group of small setae subbasally ..... *R. parvicellulata* Frey, 1922

5b Posteroventral setae on fore femur present. Mid femur without any group of setae ..... 6

6a (5) Fore femur with a tuft of long anteroventral setae subapically on distinct protuberance ..... *R. armimana* Frey, 1922

6b Anteroventral setulae on fore femur spread subequally, they do not form tuft ..... 7

7a (6) Fore tibia with setae ventrally at least twice as long as tibia is thick. (Additional character: basal tarsomere of mid leg with setae dorsally at least 4/5 as long as its length) ..... 8

7b Fore tibia ventrally with homogeneous setulae shorter than diameter of tibia ..... 10

8a (7) Mid tibia with setae dorsally arranged in two rows of. Abdomen grey when viewed from above. Hind femur with a few setae ventrally about as long as femur is deep ..... *R. ponti* sp. n.

8b Mid tibia with very long setae both dorsally and ventrally not forming rows. Abdomen brown when viewed from above. Hind femur at least in basal two thirds with short setae ventrally ..... 9

9a (8) Mid femur with long anterodorsal and posterodorsal setae, the longest setae at least twice as long as femur is deep. Fore tibia not swollen, uniformly setose on posterior surface ..... *R. ursina* Oldenberg, 1915

9b Mid femur with very short anterodorsal, dorsal and posterodorsal setulae, about one third as long as femur is deep. Fore tibia swollen, with bare pruinose stripe on posterior surface ..... *R. kreischi* Barták, 1998

10a (7) Posteroventral setae on fore femur form a single row, which may be confined to apical half of femur only. Posteroventral (posterior) surface of fore femur polished at least above posteroventral setae or posteroventrals absent in basal half of femur ..... 11

10b Posteroventral surface of fore femur covered with setae and setulae not forming row or this row is irregular. Posteroventral area of fore femur pruinose and simultaneously posteroventrals present in basal half of femur ..... 15

11a (10) Posteroventral row of setae on fore femur incomplete, confined to apical half of femur ..... 12

11b Posteroventral row of setae on fore femur complete, these setae are almost equally long throughout all length of femur ..... 13

- 12a (11) Basal tarsomere of fore leg ventrally with a few peculiar, long and fine, upright setulae with bent tips. Mesoscutum deep black. Wings brownish. (Additional characters: fore tibia with homogeneous ciliation dorsally about as long as diameter of tibia; abdominal tergites 6-7 with very short hind marginals) . . . . . *R. sellacrinita* sp. n.
- 12b Basal tarsomere of fore leg with normal setulae ventrally. Mesoscutum mostly light or brownish grey. Wing clear. (Additional characters: both fore tibia and basitarsus dorsally with heterogeneous setae much longer than diameter of these tarsomeres) . . . . . *R. crinita* Becker, 1887
- 13a (11) Hind femur slightly bent in anterior view, with ventral «pilosity» confined to basal half only . . . . . *R. lautereri* Barták, 1981
- 13b Hind femur straight as usual, with ventral «pilosity» throughout its length. (If mid tibia with only one ventral row of setae, fore tibia with posterodorsal setulae about as long as tibia is thick, abdomen somewhat subpolished, and apical angle of cercus slightly acute, compare *R. subdolomitica*) . . . . . 14
- 14a (13) Anteroventral setae on mid femur 1/3 as long as femur is deep or even shorter. (Additional characters: discal cell short, vein M2 1.4-1.6 times as long as discal cell; abdomen brown viewed from above; epandrium with short spines near the tip) . . . . . *R. montana* Oldenberg, 1915
- 14b Anteroventral setae on mid femur nearly as long as femur is deep. (Additional characters: posteroventral setae on mid femur subequally long as corresponding anteroventral - about as long as femur is high; posteroventral seta on hind femur present; proepisternum with normal setulae; discal cell slightly elongated; abdomen light grey viewed from above). (If discal cell about 1.1 times as long as vein M2, compare *R. aucta*; if vein M2 more than 1.4 times as long as discal cell, acrostichals and dorsocentrals more than twice as long as the distance between their rows, and apical angle of cercus obtuse, compare *R. hirtimana*; if dorsal setae on mid tibia short, about twice as long as tibia is thick, compare *R. sanctimauritii*) . . . . . *R. albosegmentata* Zetterstedt, 1838
- 15a (10) Discal cell elongated and narrow, about as long as vein M2. Apical angle of cercus obtuse. Fore femur short setulose dorsally. Hind femur with 1 long and strong posteroventral. Abdomen light grey viewed from above. (If discal cell elongated and other characters disagree, compare *R. serpentata* or *R. nubigena*) . . . . . *R. aucta* Oldenberg, 1917
- 15b Discal cell shorter, vein M2 usually more than 1.1 times as long as discal cell. Other characters disagree . . . . . 16
- 16a (15) Abdomen grey when viewed from above. In difficult cases simultaneously: basal tarsomere of fore leg above with setae longer than half of its length, mid tibia with two ventral rows of setae, discal cell short - vein M2 more than 1.3 times as long as discal cell, the longest dorsal setae on mid tibia at least three times as long as tibia is thick and face always bare . . . . . 17

- 16b Abdomen brown when viewed from above. In difficult cases basal tarsomere of fore leg above mostly with setae shorter than half of its length and: either mid tibia with one ventral row of setae or discal cell elongated - vein M2 less than 1.2 times as long as discal cell or face with a few setulae or mid tibia with short setae dorsally . . . . . 23
- 17a (16) Hind femur with at most 1-2 fine anteroventral setae shorter than femur is deep. Posteroventral setae on hind femur present or absent . . . . . 18
- 17b Hind femur with 3 or more strong anteroventral setae about as long as femur is deep. Posteroventral seta on hind femur always present . . . . . 19
- 18a (17) Mesoscutum light grey when viewed from above, often with darker longitudinal stripes between rows of setae. Posteroventral setae on mid femur up to twice as long as femur is deep. Abdominal tergites 4-7 with very short setulae. Costal seta often short and fine. Base of wing somewhat milky white . . . . . *R. chionoptera* Bezzi, 1904
- 18b Mesoscutum brown when viewed from above. Wings not milky white. Posteroventral setae on mid femur shorter than femur is deep. Other characters disagree . . . . . *R. crassimana* Strobl, 1898
- 19a (17) Basal tarsomere of fore leg swollen, 3.5 times as long as broad (and 0.21 mm broad), densely covered with long setae dorsally. Also the 2nd fore tarsomere dorsally with setae longer than this tarsomere. Phallus of unusual shape, with lateral «wings». (Additional characters: larger species - wing 6.0 mm; scutum dark brownish grey) . . . . . *R. saintbaumensis* sp. n.
- 19b Basal tarsomere of fore leg not swollen, more than 4 times as long as broad (and usually about 0.15 mm broad), sparsely covered with shorter setulae dorsally. The 2nd fore tarsomere dorsally short setulose (only preapicals may be longer). Phallus of usual «albosegmentata» type . . . . . 20
- 20a (19) Apical angle of cercus right to obtuse. Acrostichals and dorsocentrals shorter and stronger, about twice as long as the distance between their rows (rarely up to 2.5 times as long). Dorsocentrals sparsely spreading down sides of mesoscutum (10-20 setae in presutural area of mesoscutum lateral of dorsocentrals) . . . . . 21
- 20b Apical angle of cercus acute. Acrostichals and dorsocentrals long and fine, about three times as long as the distance between their rows and setae densely cover even the area lateral from dorsocentrals in front of suture . . . . . 22
- 21a (20) Fore tibia with strong anterodorsal, posterodorsal and posterior setae clearly differentiated from nearby setulae. About 20 setae in presutural area of mesoscutum lateral of dorsocentrals. Labrum shorter than head is high. Palpi densely long setose (more than 20 strong setae on each palpus) . . . . . *R. bellinosetosa* sp. n.
- 21b Fore tibia with almost homogeneous dorsal ciliation. About 10 setae in presutural area of mesoscutum lateral of dorsocentrals. Labrum longer than head is high. Palpi sparsely setose (less than 15 strong

- setae on each palpus). (If fore tibia with rather short setae dorsally, palpi densely setose and apical angle of cercus very obtuse, compare *R. janovenssis*) . . . . . *R. hirtimana* Oldenberg, 1922
- 22a (20) Apical angle of cercus about 45° . . . . . *R. curvinervis* Oldenberg, 1915
- 22b Apical angle of cercus about 80° . . . . . *R. tristriolata* Nowicki, 1868
- 23a (16) Posterodorsal setae on fore tibia almost homogeneous, about as long as diameter of tibia. Discal cell short, vein M2 1.6-1.8 longer than discal cell (if discal cell elongated, compare *R. sanctimauroitii*). Apical angle of cercus sharply acute. (If nearly right, compare *R. subdolomitica*). Both acrostichals and dorsocentrals relatively short, not much longer than the distance between their rows  
. . . . . *R. brevipila* Oldenberg, 1922
- 23b Fore tibia with heterogeneous setae dorsally longer than tibia is thick. Other characters disagree . . . . . 24
- 24a (23) Fore femur dorsally and anterodorsally with only short setulae. (Additional characters: abdomen light grey in lateral view, pruinose; face and frons bare) . . . . . 25
- 24a Fore femur with setulae dorsally or anterodorsally at least as long as femur is deep . . . . . 27
- 25a (24) Mid tibia with short setulae dorsally, at most twice as long as tibia is thick. Larger species (wing more than 7.5 mm). (Additional characters: apical angle of cercus obtuse; discal cell slightly elongated, vein M2 1.1 - 1.3 times as long as discal cell; mesoscutum with distinct stripes; posteroventral setae on mid femur strong and about 0.20 mm long) . . . . . *R. sanctimauroitii* Becker, 1887
- 25b Mid tibia with longer setulae dorsally, at least three times as long as diameter of tibia . . . . . 26
- 26a (25) Apical angle of cercus slightly acute. Discal cell short (vein M2 usually more than 1.4 times as long as discal cell)  
. . . . . *R. subdolomitica* Barták, 1981
- 26b Apical angle of cercus very obtuse. Discal cell slightly elongated (vein M2 1.2-1.3 times as long as discal cell) . . . . . *R. janovenssis* Barták, 1981
- 27a (24) Apical angle of cercus acute. Abdominal tergites pruinose, light grey in lateral view. Mid tibia with two ventral rows of setae. Eyes meet on frons. Face bare. Discal cell slightly elongated, vein M2 less than 1.2 times as long as discal cell. (If discal cell short, acrostichals and dorsocentrals twice as long as the distance between their rows and only 1 posteroventral on f3 present, compare *R. luridipennis*)  
. . . . . *R. serpentata* Loew, 1856
- 27b Apical angle of cercus right or slightly obtuse. Abdominal tergites at least moderately subpolished (if pruinose, follow couplets 13 or 20). Face often with a few setulae. Other characters in another combination . . . 28
- 28a (27) Basal tarsomere of fore leg dorsally with setae longer than half the length of basitarsus. Mid femur with anteroventral and posteroventral setae longer than femur is deep. Mid tibia with two complete rows of

- setae ventrally. (Additional character: mesoscutum pruinose, without stripes) . . . . . 29
- 28b Basal tarsomere of fore leg dorsally with setae shorter than half of its length. Mid femur with at least anteroventral setae shorter than femur is deep. Mid tibia usually with only one ventral row of setae . . . . . 30
- 29a (28) Abdominal tergites subpolished, not glossy polished. The 8th tergite without "brush" of erect setae dorsally . . . . . *R. lindneri* Barták, 1998
- 29b Abdominal tergites glossy polished at least partly. The 8th tergite with peculiar "brush" of erect setae . . . . . *R. erecta* Barták, 1998
- 30a (28) Hind femur with dense and long anteroventral setulae, subequally long as strong setae. Tergites 2-7 polished, other parts of abdomen pruinose. Acrostichal setae distinctly shorter and finer than dorso-centrals . . . . . *R. loewi* Nowicki, 1868
- 30b Hind femur with short and sparse anteroventral setulae in addition to much longer and stronger setae. Tergites at most subpolished, with distinct microchaetae. Acrostichal and dorsocentral setae subequal . . . . . 31
- 31a (30) Mesoscutum subpolished, without traceable stripes. Epandrium equally rounded at tip. Apical angle of cercus slightly obtuse . . . . . *R. discoidalis* Becker, 1889
- 31b Mesoscutum pruinose, with two distinct darker stripes between rows of setae. Epandrium not rounded at tip, but with distinct dorsal constriction. Apical angle of cercus exactly right one. (Additional characters: abdominal tergites 2-6 pruinose) . . . . . *R. morio* Zetterstedt, 1938
- 32a (4) Discal cell elongated almost to wing margin, more than 2.5 times as long as vein M2 . . . . . 33
- 32b Discal cell shorter, at most twice as long as vein M2 . . . . . 34
- 33a (32) Discal cell of unusual shape, vein bordering its lower side clouded . . . . . *R. serpentata* Loew, 1856
- 33b Discal cell of usual shape. Hind femur anteriorly with an irregular row of setae nearly as long as femur is deep . . . . . *R. aucta* Oldenberg, 1917
- 34a (32) Wing partly clouded, at least along apical sections of veins M2 and CuA1 . . . . . 35
- 34b Wing uniformly coloured, clear to brown. (If the whole posterior margin of wings clouded, compare *R. discoidalis*) . . . . . 36
- 35a (34) Apical section of vein M1 clouded . . . . . *R. tristriolata* Nowicki, 1868
- 35b Apical section of vein M1 without clouding . . . . . *R. curvinervis* Oldenberg, 1915
- 36b (34) Both acrostichals and dorsocentrals shorter than 1/3 of the distance between their rows. Hind femur without any strong anterior setae in basal half . . . . . 37
- 36b Acrostichals or dorsocentrals longer than 1/3 of the distance between their rows or hind femur with strong anterior setae even in basal half . . . . . 38
- 37a (36) Hind femur somewhat dilated, covered with short and almost pennate ciliation both above and beneath in addition to 4-6 strong antero-ventral setae. Discal cell not elongated, vein M2 1.3-1.7 times as long as discal cell. (Additional characters: mesoscutum dark black; acro-



- stichals and dorsocentrals stout, spinose). (If acrostichals and dorsocentrals fine and hair-like, compare *R. brevipila*)  
 ..... *R. montana* Oldenberg, 1915
- 37b Hind femur not dilated and without subpennate ciliation. Discal cell elongated, vein M2 less than 1.2 times as long as discal cell. (Additional character: wings brownish, discal cell and the area behind it and second basal cell conspicuously lighter than other parts of wing membrane) ..... *R. discoidalis* Becker, 1889
- 38a (36) Basal three fore tarsomeres somewhat dilated, covered with fine, silver pilosity ..... *R. crassimana* Strobl, 1898
- 38b Front tarsi shaped and setose as usually. (Additional character: mid femur straight, not bent) ..... 39
- 39a (38) Discal cell elongated, vein M2 less than 1.2 times as long as discal cell .. 40
- 39b Discal cell short, vein M2 more than 1.2 times as long as discal cell. (Additional characters: face bare; ocellar setae long and strong, usually longer than 2/3 of frons) ..... 44
- 40a (39) Face with a few long fine setulae. (Additional character: abdomen pruinose). (If mesonotum subpolished and without stripes, acrostichals short and posterior margin of wings dark and discal cell much paler, compare *R. discoidalis*) ..... *R. morio* Zetterstedt, 1938
- 40b Face bare ..... 41
- 41a (40) Abdomen light grey. (If fore femur pruinose and not at least polished, follow couplet 44) ..... *R. albosegmentata* Zetterstedt, 1838
- 41b Abdomen brown, at least on tergites ..... 42
- 42a (41) Fore tibia without rows of setae ventrally. Mid femur with setae ventrally 1/3 as long as femur is deep. Abdominal tergites subpolished  
 ..... *R. lindneri* Barták, 1998
- 42b Fore tibia with distinct rows of ventral setae (sometimes very short). Mid femur short setulose ventrally. Abdominal tergites 2-7 polished .... 43
- 43a (42) Both tergites and sternites of abdomen polished, at least sides of sternites 3-6 ..... *R. ursina* Oldenberg, 1915
- 43b Sternites pruinose, at most last segments slightly subpolished. (If fore tibia with very short ventral setulae and fore coxa with anterior and anterodorsal setulae longer than diameter of fore tibia, compare *R. loewi*) ..... *R. kreischi* Barták, 1998
- 44a (39) Hind femur somewhat dilated, with short and almost subpennate ciliation above and sometimes also beneath, in addition to 2-5 strong anteroventral spines ..... 45
- 44b Hind femur without subpennate ciliation and not at least dilated ..... 46
- 45a (44) Many (usually more than 20) setulae lateral of dorsocentrals in presutural part of mesoscutum. Both acrostichals and dorsocentrals usually shorter than half of the distance between their rows. Mid femur with short subpennate posteroventral ciliation. Abdomen grey dusted  
 ..... *R. brevipila* Oldenberg, 1922

- 45b Almost no setulae lateral of dorsocentrals. Both acrostichals and dorsocentrals usually longer than half of the distance between their rows. Posteroventral surface of mid femur sparsely covered with simple (not flattened) setulae shorter than half of depth of femur. Tergal part of abdomen slightly polished . . . . *R. subdolomitica* Barták, 1981
- 46a (44) Marginal setae on abdominal segment 3 about 1/4 as long as this segment, following segments almost bare. Costal seta short and fine, almost absent. Hind femur almost bare ventrally . *R. chionoptera* Bezzi, 1904
- 46b Abdominal segment 3 with hind marginal setae longer, also the following segments with considerable pubescence. Costal seta long. Hind femur with ventral setae . . . . . 47
- 47a (46) Tergites 2-7 polished, sternites pruinose. Mid and hind femora with very short setulae and very short ventral spines . . . . *R. loewi* Nowicki, 1868
- 47b Not as above. (Additional character: hind femur with long and strong setae ventrally) . . . . . 48
- 48a (47) Hind femur with a complete row of strong anterior (or anterodorsal) setae. Both acrostichals and dorsocentrals usually shorter than half of the distance between their rows. (Additional character: large species, wing more than 6.9 mm) . . . . . *R. sanctimauritii* Becker, 1887
- 48b Strong anterior or anterodorsal setae absent at least in basal half of hind femur. Both acrostichals and dorsocentrals usually longer than the distance between their rows . . . . . 49
- 49a (48) Hind femur thickened apically. Mid femur and tibia covered with peculiar, rather adhered and thick pubescence. (Additional character: posteroventral surface of fore femur bare and polished) . . . . . *R. parvicellulata* Frey, 1922
- 49b Hind femur not thickened. Mid leg with ordinary pubescence. (Additional characters: both acrostichals and dorsocentrals less than twice as long as the distance between their rows; tergites uniformly pruinose) . . . . . 50
- 50a (49) Usually more than 30 acrostichal setae. Hind femur usually with 3 or more anterodorsal setae or fore femur with strong anterior seta. Haltere dark . . . . . 51
- 50b Usually less than 30 acrostichal setae. Hind femur with at most 2 anterodorsal setae and fore femur usually without anterior seta. Haltere yellow to dark. (Additional characters: femora pruinose; fore femur with distinct posteroventral setulae; scutum usually with more than 10 setulae in presutural area beside intrahumeral and posthumeral; dorsocentrals multiserial; hind tibia with ordinary ciliation) . . . . 52
- 51a (50) Mid femur with one strong posterior seta in apical third . . . . . *R. armimana* Frey, 1922
- 51b Mid femur without strong posterior seta in apical third . . . . . *R. janovensisi* Barták, 1981
- 52a (50) Acrostichals rather stout. Haltere pale, often almost yellow. Abdomen grey viewed from above . . . . . *R. hirtimana* Oldenberg, 1922

- 52b Acrostichals fine. Haltere dark. Abdomen brown viewed from above. (Additional character: fore femur pruinose). (If acrostichals reach far into presutural area, compare *R. janovensisi*) . . . . . *R. crinita* Becker, 1887

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#### REFERENCES

- BARTÁK, M. 1981. A revision of the *Rhamphomyia albosegmentata* - group (Diptera, Empididae), with descriptions of new species. *Acta Universitatis Carolinae - Biologica* 1979: 361-407.
- BARTÁK, M. 1982. The Czechoslovak species of *Rhamphomyia* (Diptera, Empididae), with description of a new species from Central Europe. *Acta Universitatis Carolinae - Biologica* 1980 (1982): 381-461.
- BARTÁK, M. 1998. *Rhamphomyia* (Diptera: Empididae) from the State Museum of Natural History, Stuttgart, with descriptions of new species. *Stuttgarter Beiträge zur Naturkunde, Serie A* 583: 1-26.
- MERZ, B. & HAENNI, J.-P. 2000. 1.1. Morphology and terminology of adult Diptera (pp. 21-51). In: PAPP, L. & DARVAS, B. (eds). Contributions to a Manual of Palaearctic Diptera. Volume 1. *Science Herald, Budapest*, 978 pp.
- SINCLAIR, B. 2000. 1.2. Morphology and terminology of Diptera male terminalia (pp. 53-74). In: PAPP, L. & DARVAS, B. (eds). Contributions to a Manual of Palaearctic Diptera. Volume 1. *Science Herald, Budapest*, 978 pp.